Volunteer Lake Assessment Program Individual Lake Reports

MOORES POND, TAMWORTH, NH

MORPHOMETRIC DATA

Watershed Area (Ac.):	12,224	**Max. Depth (m):**	11.3	**Flushing Rate (yr^{-1}):**	34
Surface Area (Ac.):	50	**Mean Depth (m):**	4.4	**P Retention Coef:**	0.14
Shore Length (m):	2,600	**Volume (m^3):**	886,000	**Elevation (ft):**	440

TROPHIC CLASSIFICATION

Year	Trophic class
1984	MESOTROPHIC
2004	MESOTROPHIC

KNOWN EXOTIC SPECIES

The Waterbody Report Card tables are generated from the 2012 305(b) report on the status of N.H. waters, and are based on data collected from 2001-2011.

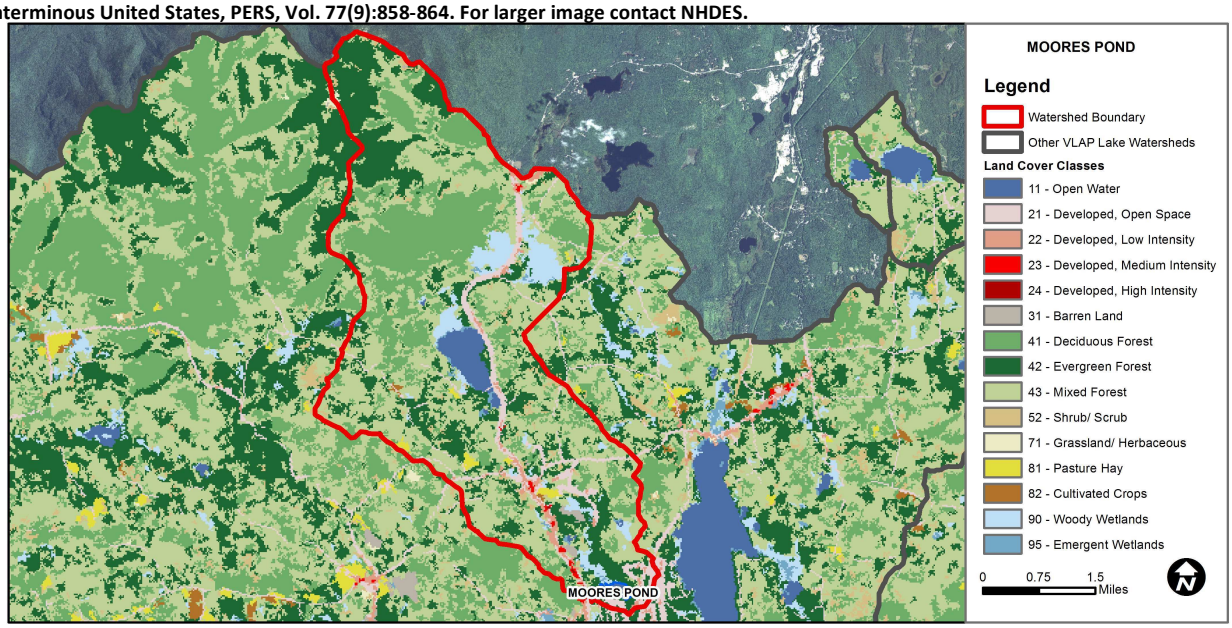
Designated Use	Parameter	Category	Comments
Aquatic Life	Phosphorus (Total)	Very Good	>5 samples and median is < 1/2 threshold.
	pH	Slightly Bad	>10% of samples exceed criteria by a small margin (minimum of 2 exceedances).
	D.O. (mg/L)	Encouraging	< 10 samples and no exceedance of criteria. More data needed.
	D.O. (% sat)	Encouraging	< 10 samples and no exceedance of criteria. More data needed.
	Chlorophyll-a	Good	>/=5 samples and median is < threshold but > 1/2 threshold value.
Primary Contact Recreation	E. coli	Good	Geometric means < criteria; however at least 1 exceedance of the single sample criteria occurred.
	Chlorophyll-a	Encouraging	< 10 samples and no exceedance of criteria. More data needed.

BEACH PRIMARY CONTACT ASSESSMENT STATUS

MOORES POND - ASSOCIATION BEACH	E. coli	Very Good	All bacteria samples <75% of geometric mean criteria, but not enough to calculate geometric mean. Or, all bacteria samples are < single sample criteria and calculated Geometric means are less than geometric mean criteria.
MOORES POND - MOORES POND SKI AND BEACH	E. coli	Bad	>/=1 exceedance(s) of geometric mean criterion and/or >/=2 exceedances of single sample criterion, with 1 or more >2X criteria.

WATERSHED LAND USE SUMMARY

Fry, J., Xian, G., Jin, S., Dewitz, J., Homer, C., Yang, L., Barnes, C., Herold, N., and Wickham, J., 2011. Completion of the 2006 National Land Cover Database for the Conterminous United States, PERS, Vol. 77(9):858-864. For larger image contact NHDES.



Land Cover Category	% Cover	Land Cover Category	% Cover	Land Cover Category	% Cover
Open Water	2.53	Barren Land	0.31	Grassland/Herbaceous	0.11
Developed-Open Space	4.8	Deciduous Forest	24.4	Pasture Hay	0.55
Developed-Low Intensity	1.29	Evergreen Forest	21.43	Cultivated Crops	0.1
Developed-Medium Intensity	0.21	Mixed Forest	37.58	Woody Wetlands	4.62
Developed-High Intensity	0.02	Shrub-Scrub	1.57	Emergent Wetlands	0.46

VOLUNTEER LAKE ASSESSMENT PROGRAM INDIVIDUAL LAKE REPORTS
MOORES POND, TAMWORTH, NH
2012 DATA SUMMARY

OBSERVATIONS AND RECOMMENDATIONS (*Refer to Table 1 and Historical Deep Spot Data Graphic)*

- **CHLOROPHYLL-A:** Chlorophyll levels were slightly elevated in June and were the highest measured since monitoring began.
- **CONDUCTIVITY/CHLORIDE:** Conductivity levels were slightly greater than the NH lake median.
- **E. COLI:** E. coli levels were much less than the state standard for surface waters however were slightly greater in the Inlet.
- **TOTAL PHOSPHORUS:** Phosphorus levels were low at all stations. Epilimnetic (upper water layer) phosphorus levels were well below the NH lake median.
- **TRANSPARENCY:** Transparency was greater than the NH lake median, however has decreased slightly in the past few years.
- **TURBIDITY:** Deep spot and Outlet turbidity levels were low. Inlet turbidity was slightly elevated potentially due to low flow conditions.
- **PH:** pH levels generally lower than desirable at all stations.
- **RECOMMENDED ACTIONS:** Increase monitoring frequency to three times per summer to better assess summer water quality and historical trends. Stormwater runoff may cause excess sediments, nutrients and other pollutants to enter the pond. Educate watershed residents on ways to reduce stormwater runoff from their properties utilizing DES' "NH Homeowner's Guide to Stormwater Management".

Dissolved Oxygen & Temperature Profile

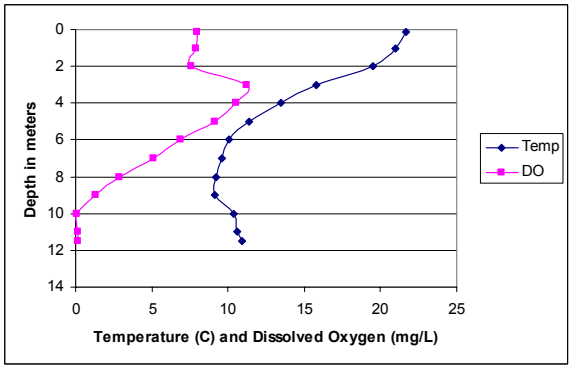


Table 1. 2012 Average Water Quality Data for MOORES POND

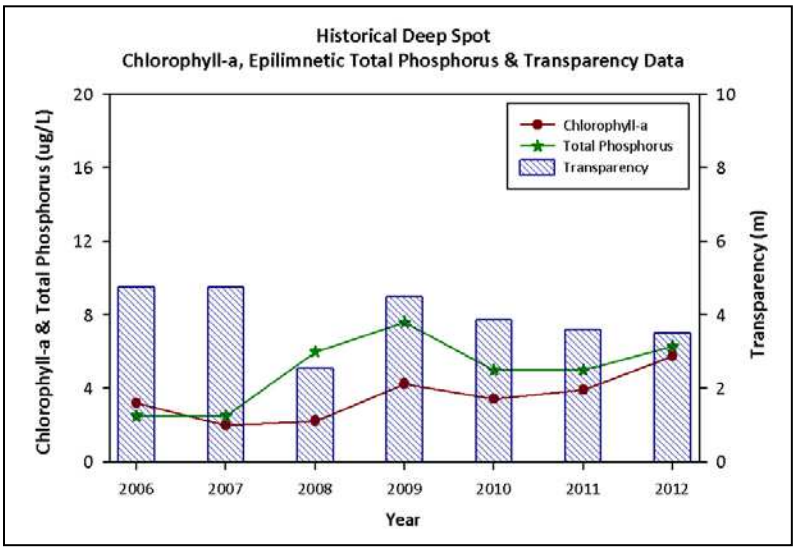
Station Name	Alk.	Chlor-a	Cond.	E. Coli	Total P	Trans.		Turb.	pH
	mg/l	ug/l	uS/cm	#/100ml	ug/l	m		ntu	
						NVS	VS		
Deep Epilimnion	2.6	5.76	50.7		6	3.50	4.75	1.08	6.35
Deep Metalimnion			50.1		5			0.87	6.23
Deep Hypolimnion			50.1		8			0.78	6.48
Inlet			59.8	70	7			1.46	6.18
Outlet			50.0	10	3			0.54	6.55

NH Median Values: Median values for specific parameters generated from historic lake monitoring data.
Alkalinity: 4.9 mg/L
Chlorophyll-a: 4.58 mg/m^3
Conductivity: 40.0 uS/cm
Chloride: 4 mg/L
Total Phosphorus: 12 ug/L
Transparency: 3.2 m
pH: 6.6

NH Water Quality Standards: Numeric criteria for specific parameters. Results exceeding criteria are considered a water quality violation.
Chloride: < 230 mg/L (chronic)
E. coli: > 88 cts/100 mL – public beach
E. coli: > 406 cts/100 mL – surface waters
Turbidity: > 10 NTU above natural level
pH: 6.5-8.0 (unless naturally occurring)

HISTORICAL WATER QUALITY TREND ANALYSIS

Parameter	Trend	Explanation
Chlorophyll-a	N/A	More data necessary to determine trend.
Transparency	N/A	More data necessary to determine trend.
Phosphorus (epilimnion)	N/A	More data necessary to determine trend.



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